

IN THE CLAIMS:

Please amend the claims as follows:

1. (CURRENTLY AMENDED) A security-sensitive semiconductor product, particularly a smart-card chip, ~~in which not only are produced comprising electrically active structures envisaged by the chip design in the form of circuit functions in and on a wafer and connected by electrical contacts, which may for example be composed of silicon, but also~~ and an additional filling structure comprising, electrically conductive parts, which are insulated from one another; ~~and are generated as a filling structure, characterized in that~~ wherein the parts of the filling structures that are generated are combined with the contacts in such a way so that additional circuit functions are generated ~~as well in addition to as the electrically active circuit structures that are produced for the circuit;~~

wherein a majority of the fill structures generated are incorporated along a signal path so that active, electrically connected parts of the fill structures are situated next to dummy fill structures that are insulated from the active electrically connected parts of the fill structures.

2. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 1, ~~characterized in that~~ wherein the parts of the filling structures that are generated are composed of metal, of polycrystalline silicon, of diffusion regions, or of other electrically conductive materials of the semiconductor product.

3. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 2, ~~characterized in that~~ wherein the contacts are also set by a routing

program belonging to a design program for chip design.

4.(CURRENTLY AMENDED)A security-sensitive semiconductor product as claimed in claim 1, ~~characterized in that~~wherein the ~~passive~~ fill structures composed of metal are connected together electrically, so that at least one closed signal path is formed between two or more nodes of the active circuitry of the circuit.

5.(CURRENTLY AMENDED)A security-sensitive semiconductor product as claimed in claim 1, ~~characterized in that~~wherein the contacts are set ~~in such a way that~~to provide arbitrary interlinkings, both horizontal and vertical, of the parts of the fill structure are produced.

6. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 5, ~~characterized in that~~wherein the contacts are set ~~in such a way so that~~ after each part of the fill structure the wiring level is changed and the horizontal direction is changed within the level.

7. (CANCELED)

8. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 7~~1~~, ~~characterized in that~~wherein the signal path is connected to further suitable integrated electronic circuit components ~~such as, for example, including at least one of~~ transistors, diodes, resistors and capacitors.

9. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 8, ~~characterized in that~~wherein the signal path that is composed of parts of the fill structures that are interlinked with one another ~~is used as~~comprises a supply track by connecting electronic circuit components ~~, such as transistors, diodes, resistors, capacitors or opto-electrical components,~~ to the supply voltage via the parts of the fill structures that are interlinked with one another.

10. (CURRENTLY AMENDED) A security-sensitive semiconductor product

as claimed in claim 8, ~~characterized in that~~wherein the signal path that is composed of parts of the fill structures that are interlinked with one another is used as a supply-to-ground path by causing the parts of the fill structures that are interlinked with one another to form an electrically conductive current path between the supply voltage and the ground potential of the electronic circuitry.

11.(CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 9, ~~characterized in that~~wherein a pick-off, ~~which may be fed to~~ electronic analyzer circuits, takes place between two contacts at a time on the signal path.

12.(CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 10, ~~characterized in that~~wherein the signal path that is composed of parts of the fill structures that are interlinked with one another is used as a resistive signal path, in which case the parts of the fill structures that are interlinked with one another are connected between the supply voltage and the ground potential of the electronic circuitry and, ~~as well as this,~~ semiconductor resistors are inserted in ~~this~~the resistive signal path at random intervals by means of contacts that are set.

13.(CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 11, ~~characterized in that~~wherein ~~at~~the pick-off, ~~which may be fed to~~ electronic analyzer circuits, takes place between two resistors at a time.

14. (CURRENTLY AMENDED) A security-sensitive semiconductor product as claimed in claim 12, ~~characterized in that~~comprising the~~security means for~~ impeding optical tracing of the electronic circuitry of security-sensitive semiconductor products, ~~and particularly smart-card chips, is very much impeded by the~~ by varying ~~size~~size and/or positions of the interlinked parts of the fill structures.